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10/539,803	04/20/2006	Eric Dallies	273903US0PCT	5036
22850 7590 03/03/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
GRAY, JILL M				
ART UNIT		PAPER NUMBER		
1794				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/539,803

Applicant(s)

DALLIES ET AL.

Examiner

Jill Gray

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/200)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

1. Pursuant to the entry of the amendment of November 24, 2009, the status of the claims is as follows: Claims 1-18 are pending.

Response to Amendment

2. The rejection of claims 1-2, 5-12, and 17-18 under 35 U.S.C. 102(b) as being anticipated by European Patent Publication 225,036 is withdrawn in view of applicants' arguments.

3. The rejection of claims 3-4 and 13-16 under 35 U.S.C. 103(a) as being unpatentable over European Patent Publication 225,036 is withdrawn in view of applicants' arguments.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the language of "a polyolefin fiber for the reinforcement of products based on fibers and a hydraulic-setting substance comprising a size" is indefinite because it is not clear what comprises the size. In the instant case, the size is a surfactant and it is not clear if the hydraulic-setting substance per se has the size material dispersed therein or if the fiber forming material i.e. the polymer has the size material mixed therein prior to forming the fiber, or if the size is coated on the surface of

the fiber. In addition, the language of "wherein the size carries a function which assists the fiberizing operation, a function in which the fiber can be wetted by the composition of the hydraulic-setting substance, and a function of promoting adhesion to the hydraulic-setting substance" is indefinite because it is not clear how the size "carries" these functions. This language implies that the size composition is a carrier solution containing other materials having these functionalities. Accordingly, the metes and bounds for which patent protection is being sought are not clear.

Claim 7 is indefinite because the product of line 2 is not clearly defined. In particular, line 1 appears to set forth a method of reinforcing a product based on fibers and a hydraulic setting substance. This embraces adding reinforcing fibers to a fiber reinforced product. It is not clear if the fibers added based on claim 1 are the same fibers in the product based on fibers and the hydraulic setting substance. Accordingly, the metes and bounds for which patent protection is being sought are not clear.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 1-4, 7-10, 12-14, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Modrak, 5,846,654.

Regarding claim 1, Modrak discloses a polyolefin fiber that can be used for the reinforcement of products based on fibers and a hydraulic-setting substance, said fibers comprising a finish that can include (for example) mixtures of ethoxylated fatty acid esters and ethoxylated alcohol phosphates, or mixtures of polyethylene glycol 400

monolaurate and polyoxyethylene(5) tridecylphosphate neutralized with diethanolamine. More specifically, Modrak discloses fibers comprising a finish comprising a product based on fatty-acid polyethylene glycol ester and phosphoric acid ester compounds or a product based on a fatty acid derived polyethylene glycol ester. See entire document, and for example the abstract, and column 8, line 57 through column 9, and line 38. In addition, Modrak discloses that the finish provides properties that may be desired for processing the fibers and renders the fibers dispersible in a water-concrete mixture. Note column 8, lines 59-64. This teaching anticipates the required "size carries a function which assists the fiberizing operation, a function in which the fiber can be wetted by the composition of the hydraulic-setting substance, and a function of promoting adhesion to the hydraulic-setting substance". Furthermore, the finish composition of Modrak is the same as the size contemplated by applicants in present claim 1, therefore, the examiner would have reason to believe that composition of Modrak would function in the same manner as said size. The same composition necessarily has the same properties, and hence, it is the examiner's position, would function in the same manner. Accordingly, the teachings of Modrak anticipate the invention as claimed in present claim 1.

Regarding claim 2, Modrak discloses that the polyolefin can be polypropylene. See abstract.

Regarding claim 3, Modrak discloses that the fibers can have a denier (fineness) of about 0.5-100 dpf (0.055 to 111.111 dtex), most preferably about 8-16 dpf (8.88-17.77

dtex). This teaching anticipates the present claimed range of a titre (fineness) of between 0.5 and 10dtex. See column 7, lines 7, lines 9-11 and Examples.

Regarding claim 4, Modrak discloses that his fibers have a tenacity of at least about 10 g/d (8.826 cN/dtex). This teaching anticipates the requirement of present claim 4 of a tenacity of at least 4 cN/dtex. See column 3, lines 52-56 and Examples.

Regarding claims 7-8, Modrak discloses a method of reinforcing a product based on fibers and a hydraulic-setting substance comprising adding a fiber to the hydraulic-setting substance. See column 7, line 54 through column 8, line 28, and lines 62-64.

Regarding claim 9, Modrak discloses the fibers are added in an amount of from about 0.01wt% to about 5 wt%. See column 8, lines 24-25.

Regarding claim 10, Modrak discloses that the product can be a board. See column 8, lines 19-20.

Regarding claims 13-14 and 17-18, as set forth above and incorporated herein, Modrak discloses a product based upon fatty acid polyethylene glycol ester and phosphoric acid ester compounds, and/or a product based on a fatty acid derived polyethylene glycol ester.

Therefore, the teachings of Modrak anticipate the invention as claimed in present claims 1-4, 7-10, 12-14, and 17-18.

8. Claims 1-11, 13-14 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent Publication EP 1044939 (translation).

The translation discloses a polyolefin fiber for reinforcing products based on fibers and a hydraulic-setting substance comprising a size that is a mixture of

"SILASTOL cut5A", an ester of polyglycole of fatty acid and "SILASTOL cut 5B", fatty alcohol phosphate mixture. See [0001] and [0063]. This mixture is the same as that set forth by applicants in their specification as being suitable. Accordingly, it is the examiner's position that this mixture has the function which assists the fiberizing operation, a function in which the fiber can be wetted by the composition of the hydraulic-setting substance, and a function of promoting adhesion to the hydraulic-setting substance, as required by present claim 1.

Regarding claim 2, the translation discloses that the polyolefin fibers can be polypropylene fibers. See [0001].

Regarding claims 3-4, the translation discloses fibers having a titre and tenacity within the present claimed ranges. See [0068].

Regarding claim 5, the translation discloses that the size is present on the fiber in an amount of 0.15% to 1.5% by weight of dry matter compared to the fiber weight. See [0070].

Regarding claim 6, the translation discloses that the size is applied as a dispersion.

Regarding claims 7-8, the translation discloses adding the aforementioned fiber to a hydraulic-setting substance and products produced therefrom. [0053].

Regarding claim 9, the translation discloses products having from 0.3 to 4% by weight of fibers relative to the total dry weight of the mixture. See [0054].

Regarding claim 10, the translation discloses a corrugated plate. See [0061].

Regarding claim 11, the translation discloses that the shaped products can be manufactured by a process comprising a mixture based on hydraulic binder, fibers and water, draining, and shaping the product (see [0003]), further disclosing the Hatschek process as being known. See [0004]-[0005]. This the same process disclosed by applicants. Therefore, the examiner has reason to believe that the process disclosed by the translation results in the same process steps as required by present claim 11.

Regarding claims 13-14 and 17-18, the translation discloses a size that comprises at least a product based on fatty acid polyethylene glycol ester and phosphoric acid ester compounds and at least a product based on fatty acid derived polyethylene glycol ester.

Therefore, the teachings of the translation anticipate the invention as claimed in present claims 1-11, 13-14, and 17-18.

Claim Rejections - 35 USC § 103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 5-6, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modrak, 5,846,654, as applied above to claims 1-4, 7-10, 12-14, and 17-18.

Modrak is as set forth above but does not disclose the amount of size on the fiber (claim 5) or specifically how the size is applied (claim 6) or the specific usage of mortar (claim 12).

Regarding claim 5, Modrak is silent as to the specific amount of size on the fiber surface. However, it is the examiner's position that it would have been obvious to the

skilled artisan during routine experimentation to determine the optimum range of add on of the finish to result in enhanced processing conditions and dispersibility of the fibers in the matrix material.

Regarding claim 6, Modrak does not specifically disclose how the size is applied. However, the general requirements of claim 6 embody all nature of application of a spin finish, i.e. the specific components itself or in a solution or dispersion or emulsion, wherein either of these is aqueous based or based on another suitable liquid vehicle. Hence, the requirements of this claim are not construed to be inventive. In addition, the teaching of Modrak that the finish can be applied to the fibers renders obvious the requirement that the size is applied alone.

Regarding claim 12, Modrak does not specifically disclose a mortar composition. However, Modrak discloses matrix materials such as cement, Portland cement, asphalt-based compositions, water-settable inorganic mixtures, and concrete board materials. This teaching clearly suggests the usage of mortar. Accordingly, it would have been obvious to the skilled artisan to form a mortar composition comprising a hydraulic binder and the aforementioned fibers.

Therefore, the teachings of Modrak would have rendered obvious the invention as claimed in present claims 5-6 and 12.

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Publication EP 1044939 (translation), as applied above to claims 1-10, 13-14, and 17-18.

The translation is as set forth above, but does not specifically disclose mortar as the binder.

Regarding claim 12, the translation discloses matrix materials such as cement, Portland cement, plaster, and water-settable inorganic mixtures. This teaching clearly suggests the usage of mortar. Accordingly, it would have been obvious to the skilled artisan to form a mortar composition comprising a hydraulic binder and the aforementioned fibers.

Therefore, the teachings of the translation would have rendered obvious the invention as claimed in present claim 12.

12. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Publication EP 310,100 (Hansen), in view of "CITHROL" product information, cited to show the state of the art.

Hansen discloses polypropylene fibers for reinforcement of products based on fibers and a hydraulic-setting substance and products produced therewith, said fibers having a coating thereon, per claims 1-2, 7-8, 10 and 12. See entire document, for example, abstract, page 4, lines 39-42. Also, Hansen discloses, as examples, several suitable surfactants, including "CITHROL A". It should be noted that the "CITHROL" products are surfactants based upon fatty acid derived polyethylene glycol esters. Accordingly, it is the examiner's position that the teachings of Hansen would have provided a suggestion to the skilled artisan for using a surfactant of the type contemplated by applicants, namely, a nonionic surfactant or product based upon a fatty acid derived polyethylene glycol ester. In addition, Hansen discloses that the coating is

present on the fibers in an amount ranging from 0.15 to 3.0% by weight and that the fibers are added to the hydraulic in an amount of about 1.5 to 3% by weight, as required by claims 5 and 9. See page 4, lines 45-48 and page 6, lines 7-24. Also, Hansen discloses that the antistatic coating is applied in any of the manners set forth in present claim 6, and that the process is manufactured according to a process that is essentially as claimed in present claim 11. See Examples.

As to claim 3, this limitation is drawn to the size of the polypropylene fibers, wherein changes of size are not a matter of invention, in the absence of factual evidence to the contrary. As to claim 4, it would have been obvious to the skilled artisan to choose fibers of a specific tenacity commensurate with the desired end use. For example, fibers to be used in the formation of ballistic articles would suitably be chosen with a different tenacity than fibers to be used in the formation of a diaper. Regarding claims 13-18, it is the examiner's position that these claims are no more than a preferential selection of a known sizing agent from among being selected for its art recognized purpose. Accordingly, this would have been an obvious variant to the skilled artisan in the absence of clear factual evidence of superior or unexpected properties that are directly related to said sizing agent. Moreover, the teachings in Hansen of surfactants such as "CITHROL" would have provided a suggestion to the skilled artisan for agents comprising fatty acid derived polyethylene glycol esters.

Therefore the teachings of Hansen anticipate the invention as claimed in present claims 1-18.

Response to Arguments

13. Applicant's arguments filed November 24, 2009 have been fully considered but they are not persuasive.

Applicants argue that comparative examples 1 and 3 show that the invention fiber possess improved properties as compared to CRACKSTOP and thus all coated polyolefin fibers are not the same.

In this regard, applicants' comparative examples have been noted. However, in the present case, there is no clear comparison of the present invention and the cited prior art.

Applicants argue that Hansen does not teach or suggest the required sizing agents and that this failure of disclosure is significant given the associated functionality of the claimed fibers, namely assisting in fiberization, assisting in wetting by the composition of the hydraulic-setting substance to which they have been added, and promoting adhesion to the hydraulic-setting substance and that the claimed sizing agents yield fibers having such functionality and, thus yield fibers having improved properties, further arguing that in stark contrast, sizing agents containing only the specified antistatic agents in the applied art would yield inferior products having inferior properties.

In this regard, there is no clear factual evidence on this record, by way of back-to-back comparison of the prior art and the instant claimed invention to substantiate applicants' arguments regarding whether the prior art yield inferior products. In addition, Hansen discloses that surfactants can be used and that said surfactants can be applied during the fiberization process, are wetting agents and aid in dispersibility of the fibers in

the matrix material. This teaching would have rendered obvious the present claimed functionality.

Applicants argue that Hansen does not provide any specific guidance as to which sizing agents to use which would lead one of ordinary skill in the art to the claimed agents, rather, Hansen merely discloses that any surface modification will suit his purpose.

The examiner disagrees. In particular, Hansen discloses, as examples, several suitable surfactants, including "CITHROL A". It should be noted that the "CITHROL" products are surfactants based upon fatty acid derived polyethylene glycol esters. Accordingly, it is the examiner's position that the teachings of Hansen would have provided a suggestion to the skilled artisan for using a surfactant of the type contemplated by applicants, namely, a nonionic surfactant or product based upon a fatty acid derived polyethylene glycol ester.

Applicants argue that for claims 13, 14, 17, and 18, Hansen does not disclose fibers containing sizing agents comprising fatty acid derived polyethylene glycol ester, and his fibers yield inferior products.

In this regard, the examiner's position is as set forth above and incorporated herein, namely, that the teachings in Hansen of surfactants such as "CITHROL" would have provided a suggestion to the skilled artisan for agents comprising fatty acid derived polyethylene glycol esters, and that there is no clear factual evidence on this record to substantiate applicants' allegation that the prior art yields inferior products.

Applicants argue that for claims 13-16, Hansen does not disclose fibers containing sizing agents comprising phosphoric ester compounds, natural-oil-based, and/or esterquats, and their fibers yield inferior products.

In this regard, with respect to claims 13-16 and as set forth previously, Hansen suggests that products based upon fatty acid polyethylene glycol ester and nonionic surfactants are suitable.

No claims are allowed.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See all documents cited on the PTOL-892. In particular, Modrak 5,502,160 discloses polyolefin fibers for reinforcement of products based on fibers and hydraulic-setting substances, wherein the fibers can be coated with finishes that are based on fatty acid polyethylene glycol ester, phosphoric acid ester compounds, non-ionic surfactants and fatty acid derived polyethylene glycol ester. See entire document. In addition, Modrak discloses that suitable finishes include those described by Johnson and Theyson, European Patent Application EP 0516,412. See column 5. Johnson et al., EP 0516412 discloses treating agents that can be esters formed by reacting polyols with fatty acids and finishes that includes mixtures of said esters with phosphoric acid ester compounds. See entire document.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Gray/
Primary Examiner
Art Unit 1794

jmg